

## *SANITARY SURVEY TRAINING CONDUCTED FOR DRINKING WATER STAFF*

**WHAT IS A SANITARY SURVEY:** "...an on-site review of the water source, facilities, equipment, operations, and maintenance of a public water system (PWS) for the purpose of evaluating the adequacy of such source, facilities, equipment, operations, and maintenance for producing and distributing safe drinking water." This definition has been broadened to include the assessment of management practices.

**AUDITOR'S REPORT REVIEWS SAFE DRINKING WATER BRANCH'S SANITARY SURVEY PROGRAM -- MAKES RECOMMENDATIONS FOR IMPROVEMENT.** Sanitary surveys are among the most important tools that the State can use to help ensure water system compliance with drinking water requirements and are an essential element of a State's drinking water program. The effectiveness of Hawaii's sanitary survey program has been weakened by an extended period of inactivity in the early 1990's and by a lack of consistent follow-up on survey recommendations.

The Auditor's Report further states that sanitary surveys performed by the branch have been untimely by standards recommended by the Environmental Protection Agency (EPA) and by federal and state regulations; the sanitary survey program could be improved through the development of a standard system for following up on survey findings and recommendations.

**IN 2000, EPA ASSESSES DRINKING WATER PROGRAM'S SANITARY SURVEY PROGRAM AS PART OF ITS END-OF-YEAR PROGRAM REVIEW.** In the five years prior to 1997, there was no active PWS sanitary survey program or field presence within the Safe Drinking Water Branch. In January 1997, the U.S. Environmental Protection Agency, through contractual support, provided a formal sanitary survey training course to the SDWB staff. As a result, the SDWB made a major commitment to implementing an active and comprehensive sanitary survey program. In the ensuing years, the SDWB conducted 20 surveys in FY-1997, 53 in FY 1998, and 31 in FY-1999. The fallout in the number of surveys performed from FY-1998 to FY-1999 may be attributed in part due to a shift in staff time from conducting sanitary surveys to meeting the statutory deadline for the state to submit a Source Water Assessment Program plan to EPA.

The Total Coliform Rule (TCR) requires that sanitary surveys be conducted at least once every five years for systems that take fewer than five samples per month. EPA has encouraged the state to perform more frequent sanitary surveys, annually for surface water systems and triennially for groundwater systems. The Interim Enhanced Surface Water Treatment Rule (IESWTR) which was promulgated in December 1998 has special primacy requirements for the State to have authority to assure that PWSs respond in writing to significant deficiencies outlined in sanitary survey reports no later than 45 days after receipt of the reports, indicating how and on what schedule the system will address significant deficiencies noted in the survey

(§ 142.16(b)(1)(ii) and that PWSs take the necessary steps to address significant deficiencies identified in the sanitary survey reports (§ 142.16(b)(1)(iii)). The Department needs to ensure that the State has the appropriate statutory and regulatory authority and procedures to ensure that systems are required to respond to and correct significant deficiencies identified in sanitary surveys. The Groundwater Rule will have similar requirements that will apply to groundwater systems.

Due to staff turn over and new EPA requirements, guidelines, and recommendations regarding the performance of sanitary surveys, EPA strongly recommended that the Safe Drinking Water Branch staff receive additional training in the performance of sanitary surveys as soon as possible.

**IN RESPONSE TO THE CONCERNS AND ISSUES RAISED BY THE STATE AUDITOR AND EPA, A WORKSHOP ON SANITARY SURVEY REQUIREMENTS WAS CONDUCTED ON DECEMBER 5-8, 2000,** with staff from EPA's Regions 6 and 9. Bill Davis and Jose Rodrigues of Region 6 and Barry Pollock of Region 9 conducted the sanitary survey training course titled: "Introduction: How to conduct a Sanitary Survey at a Small Water System".

The training provided SDWB staff with the ability to apply knowledge to identify sanitary risks that might interrupt the "multiple barrier" approach to drinking water protection. The multiple barrier protection system is intended to provide several barriers of protection and may include: watershed/wellhead protection/source water protection, treatment, disinfection, distribution system. The sanitary survey would determine if any of these barriers had failed. The training allowed for additional SDWB staff to conduct sanitary surveys.

**ABOUT THE COURSE.** This training course included both classroom and field activities on the eight (8) elements of a sanitary survey: (1) Source, (2) Treatment, (3) Distribution System, (4) Finished Water Storage, (5) Pumps/Pump Facilities and Controls, (6) Monitoring/ Reporting/Data Verification, (7) Water System/ Management/Operations, and (8) Operator Compliance with State Requirements. Field activities included visits to the Mililani Water System (Groundwater) and the Mililani Memorial Park Water System (Surface Water).

**OTHER PARTICIPANTS IN THE TRAINING** included representatives from the county water departments and the Pacific Islands.

#### **PHOTOGRAPHS FROM THE SITE VISIT TO THE MILILANI MEMORIAL PARK WATER SYSTEM.**



Barry Pollock of EPA, Region 9 (center) discussing drinking water requirements with Gary Oyadomori of Mililani Memorial Park.



Jose Rodrigues of EPA, Region 6 inspecting the two settling ponds at the Mililani Memorial Park water system.

**Learn more about the elements of a sanitary survey in future issues of "The Water Spot 2001."**

### ***BACTI SAMPLING AND ANALYSIS***

*Article provided by Myron Honda of the Environmental Microbiology Section, State Laboratories Division*

The laboratories that analyze drinking water for compliance purposes are certified to do so by the State. These laboratories must follow stringent guidelines to be certified. The State Certification Officers also inspect them on a regular basis. They must keep accurate records and must demonstrate their proficiency by correctly analyzing performance evaluation samples. These are unknown samples that may or may not contain the regulated contaminant; for microbiology, these are coliform bacteria. These laboratories follow EPA and State specified parameters in order to produce valid and defensible data. However, these laboratories rely on the quality and integrity of the samples that they receive. As qualified as these laboratories are, the data produced by the laboratory are only as good as the samples that are submitted.

The samplers are the only people who can verify the information on the sample form. Are the samples being collected from the correct sites? Are they being collected on the correct date? What time are they being collected? What is the chlorine residual? Was the sample in the custody of the sampler up until the point that it is safely in the laboratory? Were sufficient number of samples collected? Because the sampler plays such a vital role in the monitoring process, the information collected by the sampler must be accurately communicated to the laboratory. It is for this reason that the samplers are reminded of the following points.

Samples that are submitted for heterotrophic plate count (HPC) analysis must be processed within eight hours of collection. This includes the actual processing time in the laboratory. Therefore, the samplers must collect these samples and transport them to the laboratory within six hours to ensure that the laboratory has sufficient processing time. If the samples are not received in the laboratory within this six-hour timeframe, the samples may be invalid for HPC analysis due to insufficient processing time. Samples that are submitted to the Department of Health (DOH) laboratory eight or more hours after collection will not be tested for HPC and will be identified by a notation on the final report form indicating that the eight hour time limit has been exceeded. All other samples (for coliform analysis) must be submitted to the laboratory as soon as possible. The DOH laboratory will accept samples between the hours of 9:00 AM to 11:00 AM and 1:00 PM to 3:00 PM.

The sampler is responsible for insuring that the sample form is correctly and completely filled out. The sampler must fill out or ensure the following information on the pre-printed form is correct:

1. Sample Location ID# and Water System Name  
(on the adhesive label of the form)
2. Sample Location
3. Collection Date
4. Type of Sample: Routine, etc.



The sampler must fill out the following:

5. Sampler
6. Collection Time
7. Chlorine Residual
8. Any collection remarks, if applicable
9. Type of sample, if other than Routine: Replacement (including date for which the sample is being replaced) or Repeat (including the corresponding number of the repeat, the sample ID and date of the original routine sample).
10. Relinquished by and Date and Time.

If someone other than the sampler is transporting the sample to the laboratory, that person must fill out the following:

11. Received by and Date and Time.
12. Relinquished by and Date and Time.

It is important that the sampler ensure the sample form is properly filled out because an improper or incomplete form may lead to an invalid sample. Items 1 through 4 should be filled out prior to sampling. Items 5 to 9 should be filled out immediately after collection. Items 10 and 12 are to be filled in at the laboratory. If a courier is used to deliver the samples to the laboratory, item 11 must be filled out upon transfer of the sample from the sampler to the courier. Note that the DOH form includes a chain of custody.

This form may be used for legal purposes and therefore must be filled out accurately by the respective people. This means that the courier cannot sign for the sampler. Nor can the courier fill in any sampling information (items 1-10 above) or make any changes to what has been written by the sampler. Samples that are invalidated will need to be re-collected and re-submitted, possibly to a private laboratory. Because of the necessity to document all activities, including the appropriate dates and times, the information on the form must be accurate. The DOH sample form must accompany all samples that are delivered to the DOH laboratory. The laboratory may reject a sample whose form is improperly filled out or is incomplete.

The sampler must affix the adhesive label to the sample immediately after collection to ensure that there are no mix-ups on the samples.

If there is only one sample, one TC must accompany the sample (collected consecutively from the same site). If more than one sample is submitted, two TC's must be submitted: one collected with the first sample and another collected with the last sample. If no TC's are submitted, the laboratory may reject the sample. All samples should be stored in a cooler with ice after collection. Ideally, the sample should be received in the laboratory at 10°C or less (but not frozen); however, this may not apply if there is a short transport time to the laboratory. Samples should be placed in plastic bags to ensure that water from the melted ice does not enter the sample bottles/containers (this does not apply if coolants such as blue ice are used).

The laboratory takes certain measures to ensure that the data produced is credible and accurate. The sampler must also take the appropriate steps to ensure that the sample that is submitted to the laboratory accurately reflects the water going through the distribution system; after all, the data produced by the laboratory is only as good as the sample that is submitted.

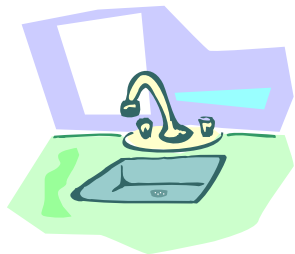
**HPC currently run on the following systems:**

239	Kalaupapa
309	Waialua Sugar P2
320	Mililani Memorial (required)
325	Hawaii Reserves
326	Mokuleia
327	Kahana State Park
348	Waiawa Correctional (required)

**Systems which have samples delivered to DOH laboratory by person other than sampler:**

237	Lanai
238	Lanai
239	Kalaupapa
309	Waialua Sugar P2
312	Queen's Medical Center
315	Campbell Estates
316	Campbell Estates
325	Hawaii Reserves

***BILL TO BAN LEADED MATERIALS FROM DRINKING WATER DISTRIBUTION SYSTEMS  
(Would extend the requirements for lead-free components to include plumbing fittings and fixtures.)***



In the last issue of "The Water Spot 2001," we mentioned that there was a Bill in this year's State Legislative Session related to the meeting of federal primacy requirements for banning leaded materials from drinking water distribution systems. The Bill would amend section 340E-7, Hawaii Revised Statutes, to extend the requirement to use "lead free" components in drinking water distribution systems. Plumbing fittings and fixtures would be required to meet National Sanitation Foundation (NSF) Standard 61, Section 9.



**Justification:** The State continues to seek primacy in the enforcement of various drinking water programs. In 1986, Congress attempted to reduce lead in drinking water and banned the use of solders and fluxes as well as pipe and pipe-fittings containing more than a specified amount of lead (0.2 percent for solders and fluxes and 8 percent for pipes and pipe-fittings. 42 U.S.C. §300g-6. This action was a significant step in the reduction of the public exposure to lead in drinking water. The Safe Drinking Water Act Amendments of 1996 extended this ban on leaded products to include plumbing fittings and fixtures or end point devices such as faucets which have been identified as another significant source of lead in drinking water. 42 U.S.C. §300g-6(e). This extension will increase public health protection by further reducing the exposure of the public to lead from drinking water. States are required by 42 U.S.C. §300g-6(b) to enforce the lead free requirement of 42 U.S.C. §300g-6(a)(1) which includes fittings and fixtures..

For defining lead free plumbing fittings and fixtures, EPA recognized Standard 61, Section 9 of the National Sanitation Foundation (NSF). 62 Federal Register 44684 (August 22, 1997).

EPA has prepared a paper summarizing Section 1417 of the Safe Drinking Water Act and the NSF Standard. This paper also answers commonly asked questions regarding the NSF Standard.

## CONSUMER CONFIDENCE REPORT INFORMATION

### **This year's CCR deadlines are as follows:**

- |  |                        |
|--|------------------------|
| (1) Water sellers must provide monitoring results to water purchasers by:  | <b>APRIL 1, 2001</b>   |
| (2) CCRs must be prepared and distributed to customers by:   | <b>JULY 1, 2001</b>    |
| (3) Water systems must submit a certification that they have prepared and distributed the CCR to their customers by: | <b>OCTOBER 1, 2001</b> |

**IMPORTANT NOTE:** Due to significant increases in staff workloads, the 2000 DOH monitoring data will not be routinely sent to the water systems on diskette (as was done for 1998 and 1999). While all water systems have been sent copies of their analysis results as they were received from the laboratory, those water systems requiring a diskette version of their 2000 DOH monitoring data should contact Daniel Chang of the Safe Drinking Water Branch at (808) 586-4258 to make a request and arrangements for obtaining the data.

## PHASE II/PHASE V MONITORING INFORMATION

### **Phase II/Phase V Monitoring Reminder (January 1999 to December 2001 Period)**

All public water systems, except for the consecutive systems, are reminded that the results of the Phase II/Phase V monitoring for the 1999 to 2001 monitoring period are due **December 31, 2001**. Group A (serving less than 150 service connections and less than 3300 persons) and Group C (serving more than 150 service connections and less than or equal to 3300 persons) systems must collect one sample in the January 1999 to December 2001 monitoring period. Group B (serving less than 150 service connections and more than 3300 persons) and Group D (serving more than 150 service connections and more than 3300 persons) systems must collect two samples in two different quarters of the year during the January to December 2001 monitoring period. The following are the Phase II/Phase V contaminants that should be monitored by all water systems (Groups A, B, C, and D):

<u>EPA Method Numbers</u>	<u>Contaminants</u>
525.2	Benzo(a)pyrene
525.2	Di(2-ethylhexyl)adipate
525.2	Di(2-ethylhexyl)phthalate
1613	Dioxin
549.1	Diquat
548.1	Endothall
4500	Cyanide ( <i>see Note A</i> )

Group D systems should also monitor for the following Phase II/Phase V contaminants, in addition to the above contaminants:

515.1	2,4-D; 2,4,5-TP
515.1	Dalapon;
515.1	Dinoseb, Picloram
515.1	Pentachlorophenol

Note A: For **groundwater** systems, one sample is required in the three-year compliance period. For **surface water or groundwater under the direct influence of surface water** systems, an annual sample is required.

If there are any questions concerning the Phase II/Phase V monitoring, please contact Nora Macariola-See of the Safe Drinking Water Branch at (808) 586-4258, or call toll-free from the neighbor islands by calling 974-4000, ext. 64258 from Hawaii, 984-2400, ext. 64258 from Maui, 274-3141, ext. 64258 from Kauai, or 1-800-468-4644, ext. 64258 from Molokai or Lanai.



**Conference UPDATE**  
**AWWA Hawaii Section 27<sup>th</sup> Annual Conference**  
**“Pacific Directions in Water”**  
**May 1 – 4, 2001 Renaissance Ilikai Waikiki Hotel**



***From the Conference Chair’s Cubicle ...***

Aloha to all my friends and fellow water professionals in the Hawaii Section. Well it seems like we had just finished the 26<sup>th</sup> annual conference and here we are, already preparing for the 27<sup>th</sup> annual conference. How time flies.

This year’s Conference program will focus on a variety of issues beyond the really technical sessions, including: upcoming SDWA regulations; emerging contaminants in drinking water; water system rate planning; customer service and interaction; a distinguished small systems panel focusing on the operation and troubleshooting of small water systems; a statewide water operator training facility; and a number of presentations on small water systems of our Pacific Rim neighbors. Other tentative topics include: diversity, reuse issues, leak detection technologies, and several studies of groundwater contamination in Leeward Oahu. The single pre-conference workshop led by Glen Johansen of RCAC will focus on the management of a water system utility. The AWWA Hawaii Section’s Operator Training Committee is expected to provide an additional full day of operator training on Wednesday. Both full day sessions will offer CEUs.

Our conference is expected to benefit even further from our association this year with the Mayor’s Asia Pacific Environmental Summit (APES), May 4-6, 2001. As an official Endorsing Organization of the APES event, AWWA can further establish itself as the preeminent water organization in the Pacific Rim. The Hawaii Section is, of course, the initial link for many of these Pacific Rim nations through our extensive Water For People program and contacts with the Pacific Water Association.

AWWA President Bob Willis will be in attendance throughout the Conference, so let’s break out an extra helping of *aloha* spirit for him! He will also be speaking at the APES event. Other special guests and featured speakers include Mayor of the City and County of Honolulu, Jeremy Harris, and Waitakere, New Zealand Mayor, Bob Harvey, both of whom will be prominent APES speakers; and Dr. Joan Rose, an internationally noted professor of virology and parasitology from the University of South Florida.

I am again looking forward to the shenanigans of Rodney Villanueva at the Ono Water Contest with some surprise(????) judges and maybe even a Pacific Rim entry. The Pipe Tapping Contest competition gets better every year. And this year will be no exception as a focused Honolulu BWS team tries to make it back to Washington D.C. to reclaim the national title. Word is though, no one can look past the local section competition this year. Borrowing a phrase from a PGA commercial, “These guys are good!” The lunches, the Meet n’ Greet, the banquet, the golf and tennis tournaments and the field trip to Waihee Tunnel all offer a chance to meet new friends and catch up on old acquaintances. So mark your calendars and look for that registration packet in the mail.

Finally, thanks to all of you who are actively participating on this year’s conference committee, either as committee chairs or committee members. As for the rest of you, there’s still time to give me a call at (808) 586-4258 (e-mail: [mmiyahira@eha.health.state.hi.us](mailto:mmiyahira@eha.health.state.hi.us)).

Michael Miyahira, Chair  
27<sup>th</sup> Annual Conference Committee



## **ANNUAL AWWA HAWAII SECTION PRE-CONFERENCE WORKSHOP WATER UTILITY MANAGEMENT TOPICS WORKSHOP**

Water System owners, managers, supervisors and any others interested in participating may plan to attend a one-day workshop on Utility Management. This is a pre-conference workshop being presented on May 1<sup>st</sup> at the Hawaii Section of the American Water Works Association's 2001 Annual Conference in Honolulu. The workshop is intended for those who were unable to attend the utility management workshops presented in October and November of 1999. Participants will learn the principles involved in managing a water utility. Individual knowledge and skills will be enhanced by interactive participation.

The workshop is sponsored by the Hawaii Department of Health with support from US Environmental Protection Agency. The workshop is presented by the Rural Community Assistance Corporation and Pural Water Specialty Co.

Topics to be covered will include the functions of a manager, principles of planning & organizing, managing operations and maintenance, staffing & employment policies, human resource management, labor relations/problem employees, capacity development & demonstration, effective communication, conducting meetings, safety policy/program, emergency response plans, public relations, customer relations, records management, financial management and budgeting.

The workshop will utilize the Utility Management manual produced by the California State University, Sacramento, Office of Water Programs. Each participant will receive a copy of the manual.

Participants will be encouraged to complete the objective test contained in the manual. Upon successful completion of the test, participants can receive a certificate of completion and continuing education units credit from CSUS, Office of Water Programs.

Note: Register for this workshop when registering for the Hawaii Section AWWA 2001 Annual Conference. For more information regarding the workshop please contact Glenn Johansen at (808) 896-3886. For information regarding the conference please contact Michael Miyahira at (808) 586-4258.

---

### **CERTIFICATION REFRESHER TRAINING COURSE FOR WATER DISTRIBUTION SYSTEM OPERATORS**

**Two-day Workshops with No Fee to Attend**

Where/When: Kulana 'Oiwi, Kaunakakai - May 24 & 25, 2001  
State Office Bldg., Wailuku - May 30 & 31, 2001  
NELHA Conf. Rm., Keahole-Kona - June 4 & 5, 2001  
Environmental Health Facility, Hilo - June 7 & 8, 2001  
DOH Laboratory Facility, Pearl City - June 18 & 19, 2001  
Kauai War Memorial Conv. Hall, Lihue - June 21 & 22, 2001

Sponsored by: Hawaii Department of Health, Safe Drinking Water Branch and the U.S. Environmental Protection Agency.

Presented by: Rural Community Assistance Corporation and Pural Water Specialty Company

Drinking water distribution system operations and maintenance personnel are invited to attend and participate in the workshop on certification refresher training topics. The workshop will cover material which should be familiar to water distribution system operators preparing to take the Department of Health /ABC Certification examination in June. Course registration may be limited by classroom capacity. First preference will be given to those who are planning to re-take the Department of Health/ABC Certification examination.

#### **Workshop Topics will include:**

- Solving Math Problems/Cert. Exam Preparation Tips
- Infrastructure/Wells & Pumps
- Cross-connections/Backflow Prevention
- Preventive Maintenance
- Water Sources/Water Quality/Water Treatment
- Leak Detection & Repair
- Operator Responsibilities/Safety

Registration can be made only by contacting Glenn Johansen, RCAC at (808) 896-3886.

*The Water Spot 2001 is published by the Safe Drinking Water Branch, Environmental Management Division of the Hawai'i State Department of Health and is distributed to water purveyors, water system operators, staff, consultants, and other interested parties.*

*The Water Spot 2001 may also be viewed on the Safe Drinking Water Branch's web site at:  
<http://www.hawaii.gov/health/eh/sdwb>*

---

*Please send your  
suggestions, ideas,  
questions or  
comments to:*

***THE WATER SPOT 2001***  
***Safe Drinking Water Branch***  
***State Department of Health***  
***919 Ala Moana Blvd., Room 308***  
***Honolulu, Hawaii 96814***

***OR***

***Fax us at (808) 586-4370, Attn: "THE WATER SPOT 2001"***

***SDWB WEB SITE:***

***<http://www.hawaii.gov/health/eh/sdwb>***

***HISWAP WEB SITE:***

***<http://www.aloha.net/~will/hiswap.html>***

---



**BENJAMIN J. CAYETANO**  
**Governor of Hawaii**

**BRUCE S. ANDERSON, Ph.D., M.P.H.**  
**Director of Health**

**GARY GILL**  
**Deputy Director for  
Environmental Health**

***The Water Spot 2001 (March 2001)***  
**Safe Drinking Water Branch**  
**Environmental Management Division**  
**Hawai'i Department of Health**  
**919 Ala Moana Boulevard, Room 308**  
**Honolulu HI 96814**

**004 H 376**